

August 16, 2000

Paul Richins
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Metcalf Energy Center (99-AFC-3): Project Description

Dear Mr. Richins:

In response to the California Energy Commission's Interim Status Order dated August 4, 2000, this document entitled *Project Description* is provided as a summary of the Metcalf Energy Center (MEC) project that describes all principal project elements as well as other pertinent elements of MEC.

Sincerely,

Ken Abreu
Development Manager
Metcalf Energy Center

Enclosure

**Metcalf Energy Center
Project Description**

Project Description

Introduction

As directed by the Interim Status Order dated August 4, 2000, this document entitled *Project Description* is provided as a summary of the Metcalf Energy Center (MEC) project that describes all principal project elements as well as other pertinent elements of MEC. This document is intended to be a summary document and, pursuant to the Committee's order, does not contain detailed engineering/environmental analyses. Calpine/Bechtel has prepared a table (Attachment A) that provides a section-by-section listing of related documents and filings based on AFC sections as updated through July 2000.

The Metcalf Energy Center (MEC) will be a 600-megawatt (MW) (nominal output) natural-gas-fired combined cycle power plant. The MEC site is located just west of Monterey Road and the Union Pacific Railroad Company (UPRR) right-of-way, between Metcalf Road to the north and Blanchard Road to the south. Figures 1a and 1b¹ show the location of the generating facility, electric transmission line, natural gas supply line, and water supply and return lines.

MEC will include a 230-kilovolt (kV) switchyard and approximately 240 feet of new 230-kV transmission line. The new transmission interconnection will loop into the existing PG&E 230-kV Metcalf-Monta Vista No. 4 transmission line that passes near the northern boundary of the MEC site. No new transmission towers will be required. Natural gas for the facility will be delivered via approximately one mile of new 16-inch underground pipeline that will connect to an existing PG&E transmission backbone pipeline that runs along the eastern side of U.S. 101. A Gas Metering Station will be installed at the backbone pipeline. Recycled water for makeup to the plant's cooling systems will be supplied by the South Bay Water Recycling (SBWR) Program through one of the two water retailers in the area: San Jose Municipal Water Division (MUNI); or Great Oaks Water Company (Great Oaks). Recycled water will be delivered to the plant from a connection into SBWR's existing main pipeline in eastern San Jose via a new, 20-inch diameter, 10.2-mile-long pipeline. Combined sanitary and industrial wastewater from the plant will be transported from the plant via a forced main that will connect to San Jose's existing sewer system at a point in Santa Teresa Boulevard. Process makeup water and domestic water will be supplied by either MUNI or Great Oaks. This water supply will also serve as a backup water supply for plant cooling system makeup.

The following sections describe the design and operation of the power plant and the associated electric transmission line, natural gas supply line, and water lines.

Power Plant Description, Design, and Operation

This section describes the facility's conceptual design and proposed operation.

¹ Figures 1a and 1b were taken from the Draft Erosion Control Plan, Attachment BR-155, Data Set 2E, dated July 31, 2000 and docketed on August 1, 2000.

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Site Plan and Access

The site arrangement shown in Figure 2² illustrates the location and size of the proposed power plant. Figure 3³ presents the latest facility landscape plan. The approximately 14-acre site accommodates the generation facilities, including the on-site landscaping, setbacks, water storage tank areas, parking area, control/administration building, water treatment building, cooling tower, switchyard, emission control equipment, and generation equipment. A 20-acre parcel south of the plant site will be temporarily used for construction parking and laydown. The construction parking and laydown area will be returned to its natural state after construction is completed.

The power plant will be accessed via a 900-foot-long, 2-laned road (Figure 4⁴) constructed to city standards. It will cross the UPRR right-of-way at Blanchard Road and parallel the tracks north to the MEC site. The power plant will ultimately be accessed via a 1,500-foot-long, 2-lane road referred to as the western access road (Figure 4) constructed to City standards. In the PSA for the MEC project, the California Energy Commission's Staff determined that a western access road is not required for the MEC project to be in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Specifically, the Commission Staff determined that MEC complies with all applicable LORS without a western access road. Calpine/Bechtel agrees with Commission Staff's determination regarding LORS compliance. Although Calpine/Bechtel's compliance with applicable LORS is unquestionable, as a result of discussions with the City of San Jose Planning Department staff about Calpine/Bechtel's Planned Development (PD) Zoning application, MEC proposes to construct a western access road if and when dedicated City streets are developed for the Coyote Valley Research Park (CVRP) and MEC is granted the rights necessary for access to the CVRP road system. The western access road would parallel Fisher Creek at a distance of at least 100 feet from the riparian corridor boundary (top of the bank or outer edge of tree driplines). Until the CVRP roads are built and access is obtained through the Passantino and WL Properties, the main access road will be via Blanchard Road.

In response to the high standards of design San Jose has developed for the North Coyote Industrial Campus, Calpine/Bechtel developed an architectural treatment (i.e., architectural screening around the HRSG units) that is intended to make the plant consistent with the design qualities of the office structures planned for the adjacent industrial lands and to make the plant attractive in its own right. Figure 5⁵ is a simulation that represents the view of MEC, as it would appear along Monterey Road, just south of the intersection with Blanchard Road.

² This Site Plan has been revised (based on City discussions) from what was submitted as part of AFC Supplement C. The two buildings located in the switchyard have been moved from the east side of the yard to the west side to allow for more landscaping. In addition, the parking lot and interior roadway has been revised to allow for the western access road. This revised site plan will be filed with the City (and docketed and served on the MEC parties) in response to comments received from the City on the Planned Development (PD) Zoning Application.

³ This Preliminary Landscape Plan was submitted to the City as part of the PD Zoning Application Plan Set. It will be revised and updated (to include the changes made to the Site Plan) and resubmitted to the City as part of the PD Zoning Application.

⁴ This figure is derived from the Western Access Road environmental analysis submitted as PSA Comments, Set 8. The east access off Blanchard Road has been shaded to make it more visible.

⁵ This is KOP 2 from AFC Supplement C.

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A temporary rail spur off UPRR's western passing track will be installed between the project site and Blanchard Road for the delivery of heavy equipment components during construction. It will be removed once it is no longer need for construction.

Process Description

The power plant will consist of: two combustion turbine generators (CTGs) equipped with "dry, low NO_x" or DLN combustors and steam injection power augmentation capability; two heat recovery steam generators (HRSGs) with duct burners; a single condensing steam turbine generator (STG); a deaerating surface condenser; a mechanical draft (wet/dry) plume-abated cooling tower; and associated support equipment.

Each CTG will generate a nominal 200 MW. The CTG exhaust gases will be used to generate steam in the HRSGs. The HRSGs will use reheat design with duct firing. Steam from the HRSGs will be admitted to a condensing STG. A nominal 235 MW will be produced by the steam turbine. The project is expected to have an overall annual availability in the general range of 92 to 98 percent.

Associated equipment will include the selective catalytic reduction (SCR) systems necessary to meet the proposed NO_x emission limits.

Power Plant Cycle

CTG combustion air will flow through the inlet air filters and inlet air fogging system along with associated air inlet ductwork, be compressed and then flow to the CTG combustion sections. Natural gas fuel will be injected into the compressed air in the combustion sections combustors, and ignited. The hot combustion gases will expand through the turbine sections of the CTGs, causing them to rotate and drive the electric generators and CTG compressors. The hot combustion gases will exit the turbine sections and enter the HRSGs, where they will heat water (feedwater) that will be pumped into the HRSGs. The feedwater will be converted to superheated steam and delivered to the steam turbine at three pressures: high-pressure (HP), intermediate-pressure (IP), and low-pressure (LP). The use of multiple steam delivery pressures will permit an increase in cycle efficiency and flexibility. High-pressure steam, delivered to the HP section of the steam turbine, will exit the HP section as "cold reheat" steam and be combined with IP steam to pass through the reheater section of the HRSGs. This mixed, reheated steam (called "hot reheat") will then be delivered to the IP steam turbine section. Steam exiting the IP section of the steam turbine will be mixed with LP steam and expanded in the LP steam turbine section. Steam leaving the LP section of the steam turbine will enter the surface condenser, transfer heat to circulating cooling water, and be condensed to water. The condensed water, or condensate, will be delivered to the HRSG feedwater system. The cooling water will circulate through a cooling tower where the heat will be rejected to the atmosphere.

Combustion Turbine Generators, Heat Recovery Steam Generators, and Steam Turbine-Generator

Power will be produced by the two CTGs and the STG. The following paragraphs describe the major components of the generating facility.

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Combustion Turbine Generators

Thermal energy will be produced in the CTGs through the combustion of natural gas, which will be converted into the mechanical energy required to drive the combustion turbine compressors and electric generators. Two “F” technology CTGs have been selected for MEC; these CTGs will be supplied by Westinghouse.

Each CTG system will consist of a stationary CTG with supporting systems and associated auxiliary equipment. The CTGs will have power augmentation capability by the use of steam injection upstream of the turbine section.

The CTGs will be equipped with the following required accessories to provide safe and reliable operation:

- Inlet air fogging systems
- Inlet air filters
- Metal acoustical enclosure
- Single lube oil cooler
- Dry, low NO_x combustion system
- Compressor wash system
- Fire detection and protection system
- Fuel heating system

The CTGs and accessory equipment will be contained in metal acoustical enclosures.

Heat Recovery Steam Generators

The HRSGs will provide for the transfer of heat from the exhaust gases of the CTGs to the feedwater, which will become steam. The HRSGs will be three-pressure, natural circulation units equipped with inlet and outlet ductwork, duct burners, insulation, lagging, and separate exhaust stacks.

Major components of each HRSG will include an LP economizer, LP drum, LP evaporator, LP superheater, IP economizer, IP evaporator, IP drum, IP superheater, HP economizer, HP evaporator, HP drum, and HP superheaters. The LP economizer will receive condensate from the condenser hot well via the condensate pumps. The LP economizer will be the final heat transfer section to receive heat from the combustion gases before they are exhausted to the atmosphere.

Duct burners will be installed in the HRSGs. These burners will provide the capability to increase steam generation and greater operating flexibility and improved steam temperature control. The duct burners will burn natural gas. The duct burner for each HRSG will be sized to release up to 200 million British thermal units (MMBtus higher heating value basis) per hour per HRSG.

The HRSGs will be equipped with a SCR emission control system that will use ammonia vapor in the presence of a catalyst to chemically reduce the NO_x in the CTG exhaust gas to innocuous nitrogen (N₂) and water, thereby reducing the concentration of NO_x in the exhaust gases. The catalyst modules will be located in the HRSG casings.

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Steam Turbine System

The steam turbine system will consist of a reheat steam turbine, gland steam system, lubricating oil system, hydraulic control system, and steam admission/induction valving.

Major Electrical Equipment and Systems

The bulk of the electric power produced by the facility will be transmitted to the PG&E grid serving the South Bay Area. Some power will be used onsite to power auxiliaries such as pumps and fans, control systems, and general facility loads, including lighting, heating, and air conditioning. Some will also be converted from alternating current (AC) to direct current (DC) to power protective relays, and for use as backup power for control systems and for other uses.

Water Supply and Use

Water Supply

Approximately 95 percent of the total water requirements for MEC will be makeup for cooling water evaporated in the plant's cooling tower. The plant cooling water circulates through the main condenser and the cooling tower where it transfers the heat gained from condensing the steam turbine exhaust steam into the atmosphere by evaporation. The primary source of cooling water makeup will be recycled water from SBWR. Potable water supplied by one of the local retail water suppliers will serve as the backup water source.

The balance of the water required by the plant will be used as makeup water for the HRSGs and other equipment, makeup water for the CT combustion air fogging system, power augmentation, plant general service water, and potable water for domestic use.

Recycled water from SBWR will be delivered via a new 20-inch diameter pipeline that will be approximately 10.2-miles in length (Figures 1a and 1b). Cooling water blowdown and process wastewater streams will be combined with sanitary wastes and discharged to the San Jose sewer system through a force main to a connection to the existing sewer system in Santa Teresa Boulevard (Figure 1a).

Potable water demands will be met by either San Jose MUNI, which currently provides irrigation water within the north Coyote Valley or Great Oaks, which owns and operates a public water supply system just north of the Coyote Valley in the Santa Teresa area and serves the IBM facility on Bailey Road just west of Santa Teresa Boulevard. These retailers will most likely obtain their water supply from ground water in the region. SBWR has indicated that periodic interruptions in recycled water supply will be required to conduct planned maintenance. These interruptions are anticipated to be up to 72 hours in duration on each occasion, and may occur two or three times per year. Unplanned interruptions may also occur. The longest unplanned interruption in SBWR's history was caused by flooding during the winter of 1997. During interruptions of recycled water service, potable water will be used to meet cooling water demands. Calpine/Bechtel and the City of San Jose have committed to having the new recycled water pipeline built to provide recycled water for cooling tower makeup during plant commissioning.

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Water Use

Table 1 summarizes MEC's estimated potable and non-potable water demand and uses.

TABLE 1
Estimated Potable and Non-potable Water Demand and Uses

Uses		Average Daily Usage (million gallons per day)	Peak Daily Usage (million gallons per day)
Potable	Domestic Uses	0.2	0.69
	High-Quality Processes		
Non-potable	Cooling Tower Make Up*	3.3	4.7
Total Daily Water Use		3.5	5.39

* Assumes 5 cycles of concentration prior to discharge to the sanitary sewer

Plant Cooling Systems

The power cycle heat rejection system will consist of a deaerating steam surface condenser, mechanical draft cooling tower, and circulating water system. The cooling water will circulate through a counter flow wet/dry mechanical draft cooling tower that will use electric motor-driven fans to move ambient air upward through the downward flow of the cooling water. The heat removed from the STG exhaust steam in the main condenser will be rejected to the atmosphere by evaporating some of the falling cooling water.

Management of Hazardous Materials

Various chemicals will be stored and used during the construction and operation of MEC. All chemicals will be stored, handled, and used in accordance with applicable laws, ordinances, regulations, and standards (LORS). Chemicals will be stored in appropriate chemical storage facilities. Bulk chemicals will be stored in storage tanks, and other chemicals will be stored in returnable delivery containers. Chemical storage and chemical feed areas will be designed to contain leaks and spills. Berm and drain piping design will allow a full-tank capacity spill without overflowing the berms.

Aqueous ammonia will be stored in a tank within a secondary containment structure that completely encloses the tank, with the exception of a covered 1-foot diameter vent on the top of the structure. Aqueous ammonia vapor detection equipment will be installed to detect any ammonia vapor that may escape and activate alarms and an automatic vapor suppression water spray system.

Emission Control and Monitoring

Air emissions from the combustion of natural gas in the CTGs and duct burners will be controlled to meet the proposed emissions limits. Emissions that will be controlled include NO_x, reactive organic compounds (ROCs or POCs), CO, and particulate matter (PM).

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Continuous emissions monitoring (CEM) of NO_x and CO emissions will be performed to confirm compliance with the project's permit limits, to transmit data to a Data Acquisition System (DAS) for calculations and reporting, and to provide input signals to the emissions control systems.

NO_x Emission Control

NO_x concentrations will be controlled at the CTG combustor and the HRSG duct burners with state-of-the-art combustion technology. SCR will be used to further reduce NO_x concentrations in the exhaust gas emitted from the CTGs and duct burners to the atmosphere to 2.5 ppmvd at 15 percent oxygen (3-hour rolling average) and 2.0 ppmvd on an annual basis. The SCR process will use 28 percent by volume aqueous ammonia that will be vaporized at each HRSG to release ammonia vapor that will be injected into the exhaust gas stream in each HRSG. Ammonia slip, or the concentration of unreacted ammonia in the exiting exhaust gas, will be limited to 5 ppmvd at 15 percent oxygen. The SCR equipment will include a reactor chamber, catalyst modules, aqueous ammonia storage system, aqueous ammonia vaporization, dilution, and injection system, and monitoring equipment and sensors.

CO and ROC (POC) Emission Control

CO and ROC will be controlled at the CTG combustors and HRSG duct burners through advanced duct burner design.

Particulate Emission Control

Particulate emissions will be controlled by the use of high efficiency combustion air filtration and natural gas as the sole fuel for the CTG, and duct burners with advanced design. Cooling tower mist elimination will control the emission of particulate matter from the cooling tower.

Continuous Emission Monitoring

The plant's two CEM sample extraction and analysis systems will determine the concentrations of NO_x, CO, and oxygen in the exhaust gases from both combustion turbines and the duct burners in each HRSG. The CEM's Data Acquisition Systems (DAS) will record all input concentration and fuel consumption values and will calculate concentrations and mass emission rates for NO_x and CO. The DAS will generate reports of emissions data in accordance with permit requirements and will send alarm signals to the plant distributed control system (DCS) control room when the level of emissions approaches pre-selected limits.

Fire Protection

The fire protection system will be designed to protect personnel and limit property loss and plant downtime in the event of a fire. There will be a dedicated fire water storage tank sized in accordance with National Fire Protection Association (NFPA) and City of San Jose Fire Code requirements.

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An electric jockey pump and electric motor driven main fire pump will be provided to increase the water pressure in the plant fire mains to the level required to serve all fire fighting systems. In addition, a diesel engine-driven fire pump will be provided to pressurize the fire loop if the power supply to the main fire pump fails.

Power Plant Operation

The MEC plant is expected to have an annual availability in the general range of 92 to 98 percent. It will be possible for plant availability to exceed 98 percent for a given 12-month period. The exact operational profile of the plant, however, cannot be defined, because the facility will be operating in and selling electricity to a deregulated electric power sales market.

Air Emissions

Table 2 presents the hourly, daily, and annual air emissions associated with the operation of MEC, and includes all sources of air emissions as described in the Preliminary Determination of Compliance (PDOC). The Final Determination of Compliance (FDOC) may contain different numbers. The hourly and daily NOx emissions reflect a NOx concentration of 2.5 ppmvd corrected to 15 percent oxygen (ppmvdc). However, the annual NOx emission rate reflects an exhaust NOx concentration of 2.0 ppmvdc.

TABLE 2
Maximum Hourly, Daily, and Annual Emissions

Emission Source	NOx	CO	VOC	PM10	SOx
Gas Turbine 1 (lb/hr)	17.97	26.31	2.51	9.0	1.2
GT Gas Turbine 2 (lb/hr)	17.97	26.31	2.51	9.0	1.2
Gas Turbine 1 w/Duct Burner (lb/hr)	19.21	28.07	2.68	12.0	1.28
Gas Turbine 2 w/Duct Burner (lb/hr)	19.21	28.07	2.68	12.0	1.28
Cooling Tower (lb/hr)	-	-	-	1.81	-
Gas Turbine startup (lb/hr)	80	902	16.0	9.0	-
Emergency Generator (lb/hr)	1.77	3.02	1.42	0.28	0.004
Fire Pump Engine (lb/hr)	3.9	2.35	0.48	0.17	0.106
Total Facility Daily Emissions (Lb/Day)					
	1,366.4	7,891.1	230.2	553.8	57.9
Total Facility Annual Emissions (Ton/Year)					
	124.0	588.0	28.0	91.3	10.6

Source: Metcalf Energy Center Comments on the Preliminary Determination of Compliance (CEC Docket Log 14830, docketed on June 14, 2000) and discussions with regulatory agencies.

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INSERT FIGURES

Metcalf Energy Center Project Description

ATTACHMENT A

List of Filings for Metcalf Energy Center

AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
1.0	Executive Summary	Not specifically changed since this is a summary	
2.0	Project Description	Jeff Wade Data Response 26 (Set JW-1A)	16-Sep-99
		Supplement A	1-Oct-99
		Supplement B	15-Oct-99
		CEC Data Response 184 (Set 2B)	25-Oct-99
		Jeff Wade Data Responses 60, 61, 68, 69 (Set JW-2)	6-Dec-99
		CEC Data Responses 239 (Set 4A)	11-Jan-00
		Supplement C	15-Feb-00
		Supplement C Errata Sheet	3-Mar-00
		Location of Gas Metering Station	19-Apr-00
		Coyote Valley Data Responses 5a to 5c (Set 1)	8-May-00
		PSA Comments, Set 2	7-Jun-00
		PSA Comments, Set 7	30-Jun-00
		PSA Comments, Set 8 (Western Access Road)	14-Jul-00
	Facility Design	CEC Data Responses 41 to 45 (Set 1A)	23-Aug-99
3.0	Demand Conformance	No change.	
4.0	Facility Closure	No change.	
5.0	Electric Transmission	No change.	
6.0	Natural Gas Supply	No change.	
7.0	Water Supply	Supplement A	1-Oct-99
		Revised Data Response 133 (Set 1H)	19-Apr-00
8.1	Air Quality	CEC Data Responses 1 to 12 (Set 1A)	23-Aug-99
		Jeff Wade Data Responses 1 to 6, 9 to 13, 23, 24 (Set JW-1A)	16-Sep-99
		Supplement A, Air Quality impacts from construction.	1-Oct-99
		Supplement B—obsolete	15-Oct-99
		Jeff Wade Data Responses 35 to 56a (Set JW-2)	6-Dec-99
		Supplement C – replaced supplement B	15-Feb-00
		Supplement C Errata Sheet	3-Feb-00
		Preliminary Determination of Compliance (PDOC)	21-Apr-00
		Informal Data Request, MEC Cumulative Air Quality Impact Analysis	28-Apr-00
		Coyote Valley Data Responses 6, 7 & 8 (Set 1)	8-May-00
		PSA Comments, Set 2	7-Jun-00
		MEC Comments on the PDOC submitted to the	14-Jun-00

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AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
		Bay Area Air Quality Management District PSA Comments, Set 7	30-Jun-00
		MEC Air Quality Support Data Related to Particulate Matter Emissions	12-Jul-00
		Source Test Data Regarding Emissions of Formaldehyde, Acetaldehyde, and Acrolein	9-Aug-00
		Supplemental Top Down BACT Analysis for Oxides of Nitrogen	9-Aug-00
8.2	Biological Resources	CEC Data Responses 28, 29, 31 (Set 1A)	23-Aug-99
		Jeff Wade Data Response 27 (Set JW-1A)	16-Sep-99
		CEC Data Responses 27, 30, 34 (Set 1E)	1-Oct-99
		Supplement A	1-Oct-99
		CEC Data Response 32, 33	12-Oct-99
		CEC Data Responses 153, 154, 158, 159, 160 (Set 2A)	15-Oct-99
		CEC Data Responses 155, 156, 157, 161 (Set 2B)	25-Oct-99
		Jeff Wade Data Response 16 (Set JW-1B)	5-Nov-99
		Jeff Wade Data Response 56g, 71 (Set JW2)	6-Dec-99
		CEC Data Response 3-215 (Set 3B)	4-Jan-00
		CEC Data Response 3-217 (Set 3C)	28-Jan-00
		CEC Data Response 26, rev. 1 (Set 1G)	15-Feb-00
		Supplement C	15-Feb-00
		CEC Data Response 32, rev. 1 (Set 1G)	29-Feb-00
		CEC Data Response 3-216	26-Apr-00
		MEC Biological Assessment	4-April-00
		Informal Data Request, Cumulative Nitrogen Deposition Analysis	19-May-00
		PSA Comments, Set 1	26-May-00
		MEC Biological Assessment, Supplement 1	20-Jun-00
		PSA Comments, Set 7	30-Jun-00
		CEC Data Response 155, Rev. 1 (Set 2E)	1-Aug-00
		PSA Comments, Set 10	1-Aug-00
8.3	Cultural Resources	CEC Data Responses 36, 37 (Set 1A)	23-Aug-99
		CEC Data Responses 35, 38, 39 (Set 1D)	17-Sep-99
		Supplement A	1-Oct-99
		CEC Data Responses 162 to 164, 166 to 169, 171, 173, 174 (Set 2A)	15-Oct-99
		CEC Data Responses 165, 170, 172 (Set 2B)	25-Oct-99
		CEC Data Responses 3-218 to 3-223 (Set 3B)	4-Jan-00
		Supplement C	15-Feb-00

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List of Filings for Metcalf Energy Center

AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
		PSA Comments, Set 2	7-Jun-00
8.4	Land Use	CEC Data Responses 49 to 55 (Set 1A) Supplement A Jeff Wade Data Responses 56, 56f (Set JW-2) CEC Data Responses 3-224 to 232 Supplement C PSA Comments, Set 1 CEC Data Response 50, rev. 2 (Set 1I) PSA Comments, Set 3 PSA Comments, Set 4 PSA Comments, Set 7	23-Aug-99 1-Oct-99 6-Dec-99 4-Jan-00 15-Feb-00 26-May-00 7-Jun-00 9-Jun-00 13-Jun-00 30-Jun-00
8.5	Noise	CEC Data Responses 56(a) & (b), 57 to 62 (Set 1A) Jeff Wade Data Responses 25 (Set JW-1A) Supplement A CEC Data Responses 177 to 179, 181 (Set 2A) Supplement B – obsolete CEC Data Responses 180, 182, 183 (Set 2C) Jeff Wade Data Response 56d (Set JW-2) Supplement C, replaces Supplement B PSA Comments, Set 1 PSA Comments, Set 7 PSA Comments, Set 9	23-Aug-99 16-Sep-99 1-Oct-99 15-Oct-99 15-Oct-99 12-Nov-99 6-Dec-99 15-Feb-00 26-May-00 30-Jun-00 1-Aug-00
8.6	Public Health	CEC Data Responses 64 to 68 (Set 1A) CEC Data Response 63 (Set 1C) Jeff Wade Data Responses 7, 8 (Set JW-1A) Supplement A Supplement B – obsolete Jeff Wade Data Responses 64 to 67 (Set JW-2) Supplement C, replaces Supplement B Informal Data Requests (PH-1 to PH-3) PSA Comments, Set 2	23-Aug-99 3-Sep-99 16-Sep-99 1-Oct-99 15-Oct-99 6-Dec-99 15-Feb-00 7-Apr-00 7-Jun-00
8.7	Worker Health & Safety	Jeff Wade Data Response 31 (Set JW-1A) Supplement A Supplement C PSA Comments, Set 1 PSA Comments, Set 2 PSA Comments, Set 7	16-Sep-99 1-Oct-99 15-Feb-00 26-May-00 7-Jun-00 30-Jun-00
8.8	Socioeconomics	CEC Data Responses 69, 70 (Set 1A) CEC Data Response 70 (revised), (Set 1C) Jeff Wade Data Responses 19, 20 (Set JW-1A)	23-Aug-99 3-Sep-99 16-Sep-99

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List of Filings for Metcalf Energy Center

AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
		Supplement A	1-Oct-99
		Jeff Wade Data Responses 14, 15 (Set JW-1B)	5-Nov-99
		CEC Data Responses 185, 186 (Set 2D)	24-Nov-99
		Jeff Wade Data Responses 56c, 70 (Set JW-2)	6-Dec-99
		Supplement C	15-Feb-00
		PSA Comments, Set 1	26-May-00
8.9	Agriculture & Soils	Supplement A	1-Oct-99
		Supplement C	15-Feb-00
8.10	Traffic & Transportation	Supplement A	1-Oct-99
		Supplement C	15-Feb-00
		PSA Comments, Set 7	30-Jun-00
8.11	Visual Resources	CEC Data Responses 72, 79 to 83(a & b), 85, 88, 94, 101, 109 (Set 1A)	23-Aug-99
		CEC Data Responses 89, 90, 95 to 99, 102 to 105 (Set 1C)	3-Sep-99
		Jeff Wade Data Responses 22, 28 (Set JW-1A)	16-Sep-99
		CEC Data Responses 83(c), 91, 92, 93 (Set 1D)	17-Sep-99
		CEC Data Responses 73 to 78, 84, 86, 87, 100, 106, 107, 108, 110 (Set 1E)	1-Oct-99
		Supplement A – obsolete	1-Oct-99
		CEC Data Responses—revised: 106, 107, 108, 110 (Set 1F)	15-Oct-99
		CEC Data Responses 194, 196 to 205 (Set 2A)	15-Oct-99
		Supplement B – obsolete	15-Oct-99
		CEC Data Responses 192, 193, 195, 206, 207, 208, 209 (Set 2B)	25-Oct-99
		Jeff Wade Data Responses 56e, 62, 63 (Set JW-2)	6-Dec-99
		Supplement C, replaces Supplements A and B	15-Feb-00
		Supplement C Errata Sheet	3-Mar-00
		PSA Comments, Set 1	26-May-00
		PSA Comments, Set 4	13-Jun-00
		PSA Comments, Set 7	30-Jun-00
		PSA Comments, Set 9	1-Aug-00
8.12	Hazardous Materials Handling	CEC Data Response 48b (Set 1A)	23-Aug-99
		Jeff Wade Data Response 21 (Set JW-1A)	16-Sep-99
		CEC Data Response 48a (Set 1D)	17-Sep-99
		Supplement A	1-Oct-99
		CEC Data Responses 175, 176 (Set 2B)	25-Oct-99
		Jeff Wade Data Responses 56b, 57 to 59 (Set JW- 2)	6-Dec-99

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List of Filings for Metcalf Energy Center

AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
		Supplement C	15-Feb-00
		Coyote Valley Data Responses 5d & 5e (Set 1)	8-May-00
		PSA Comments, Set 2	7-Jun-00
		PSA Comments, Set 7	30-Jun-00
8.13	Waste Management	CEC Data Responses 111, 112 (Set 1A)	23-Aug-99
		CEC Data Response 113 (Set 1C)	3-Sep-99
		Supplement A	1-Oct-99
		CEC Data Response 210 (Set 2C)	12-Nov-99
		Supplement C	15-Feb-00
		CEC Data Responses 240 through 246 (Set 5)	25-May-00
		PSA Comments, Set 7	30-Jun-00
8.14	Soil and Water Resources	CEC Data Responses 46, 47, 114 to 123, 125, 127, 129 to 132, 134, 136 to 139, 142, 143, 146 to 152 (Set 1A)	23-Aug-99
		CEC Data Responses 126, 145 (Set 1C)	3-Sep-99
		CEC Data Responses 124, 128 133, 140 (Set 1D)	17-Sep-99
		CEC Data Responses 135, 141, 144 (Set 1E)	1-Oct-99
		Supplement A	1-Oct-99
		CEC Data Responses 211, 212, 214, 215 (Set 2B)	25-Oct-99
		CEC Data Response 213 (Set 2C)	12-Nov-99
		CEC Data Responses 233 to 237 9 (Set 4A)	11-Jan-00
		Supplement C	15-Feb-00
		CEC Data Response 3-216 (Set 3)	26-Apr-00
		Summary of MEC Water Supply Issues (and CEC Data Response 133)	19-Apr-00
		Coyote Valley Data Responses 3, 4, 5f & 5g (Set 1)	8-May-00
		PSA Comments, Set 1	26-May-00
		PSA Comments, Set 3	9-Jun-00
		CEC Data Response 3-216 (Set 3C)	14-Jun-00
		PSA Comments, Set 5	15-Jun-00
		PSA Comments, Set 7	30-Jun-00
		CEC Data Response 3-216 (Set 3F)	6-Jul-00
		CEC Data Response 147, Rev. 3 (Set 1K)	28-Jul-00
		CEC Data Response 146, Rev. 1 (Set 1L)	1-Aug-00
		PSA Comments, Set 9	1-Aug-00
		PSA Comments, Set 10	1-Aug-00
		CEC Data Response 155, Rev. 1 (Set 2E)	1-Aug-00
8.15	Geologic Hazards & Resources	Supplement A	1-Oct-99
		Supplement C	15-Feb-00
		Boring Location Plan	10-Mar-00

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AFC SECTION	DESCRIPTION	SUPPLEMENTAL INFORMATION AND DATA RESPONSES	DOCKET DATE
8.16	Paleontological Resources	Supplement A Supplement C	1-Oct-99 15-Feb-00
9.0	Alternatives	CEC Data Responses 17, 19 to 23 (Set 1A) CEC Data Resp.13 to 16, 18a, 24, 25 (Set 1B) CEC Data Responses 3-207 to 3-209 (Set 3A) CEC Data Responses 3-207 to 3-213 (Set 3B) CEC Data Responses 3-207 to 3-209 (Set 3C) CEC Data Responses 3-207 to 3-209 (Set 3D) PSA Comments, Set 1 PSA Comments, Set 3 PSA Comments, Set 7 PSA Comments, Set 9	23-Aug-99 27-Aug-00 13-Dec-99 4-Jan-00 28-Jan-00 29-Feb-00 26-May-00 9-Jun-00 30-Jun-00 1-Aug-00
10.0	Engineering Power Plant Efficiency Transmission System Engineering	CEC Data Response 40 (Set 1A) Jeff Wade Data Responses 17, 29, 30 (Set JW-1A) CEC Data Response 71 (Set 1A) CEC Data Responses 187 to 190 (Set 2B) Coyote Valley Data Responses 1 and 2 (Set 1) PSA Comments, Set 2 PSA Comments, Set 3 PSA Comments, Set 7	23-Aug-99 16-Sep-99 23-Aug-99 25-Oct-99 8-May-00 7-Jun-00 9-Jun-00 30-Jun-00